

# PATENT ABSTRACTS OF JAPAN

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(71)Applicant : MITSUBISHI ELECTRIC CORP

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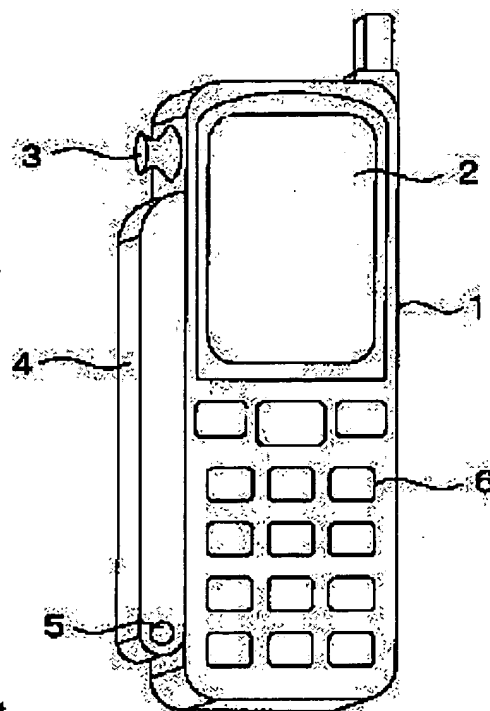
(72)Inventor : ODA TETSUYA

## (54) PORTABLE TELEPHONE SET

### (57)Abstract:

PROBLEM TO BE SOLVED: To provide a portable telephone set on which a large-sized display device is placed even if the body of the portable telephone set is reduced in size and where the display device is not in contact with a face of a user, when it is in use and hardly becomes dirty.

SOLUTION: The portable telephone set is provided with a body section 1, a display section 3 placed in front of the body section 1, a microphone section 8 that picks up a voice of user, a speaker section 4 that outputs voice of a call opposite party, a microphone section 8 and an operation section that makes the operation of the speaker section 4 executed, and the speaker audio signal 4, and the display section 3 are placed on different sides of the main body section 1.



## LEGAL STATUS

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[Date of final disposal for application]

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**CLAIMS**

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[Claim(s)]

[Claim 1] It is the portable telephone which is equipped with the body section, the display arranged in the front face of said body section, the microphone section which inputs a user's voice, the loudspeaker section which outputs a message partner's voice, and the control unit which performs actuation of said microphone section and said loudspeaker section, and is characterized by arranging said loudspeaker section and said display in the field where said body sections differ mutually.

[Claim 2] It is the portable telephone which is equipped with the body section, the display arranged in the front face of said body section, the microphone section which inputs a user's voice, the loudspeaker section which outputs a message partner's voice, and the control unit which performs actuation of said microphone section and said loudspeaker section, and is characterized by arranging said loudspeaker section on the up side face of said body section.

[Claim 3] The body section, the display arranged in the front face of said body section, and the microphone section which inputs a user's voice, The loudspeaker section which outputs a message partner's voice, and the control unit which performs actuation of said microphone section and said loudspeaker section, It is the portable telephone which is fixed by the flank lower limit of said body section, is equipped with the arm section developed in the direction isolated from the side face of said body section, and is characterized by arranging said microphone section at the tip of said arm section.

[Claim 4] Said loudspeaker section is a portable telephone according to claim 3 characterized by being arranged on the up side face of said body section.

[Claim 5] A portable telephone given in any 1 term of claim 1 to claim 4 characterized by it being arranged on the side face of said body section, having the fingerprint read station which reads a user's fingerprint, attesting the fingerprint read by said fingerprint read station, and confirming actuation of said control unit only when a user is a just possessor.

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**DETAILED DESCRIPTION**

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**[Detailed Description of the Invention]**

**[0001]**

**[Field of the Invention]** It is related with the portable telephone suitable for a miniaturization.

**[Description of the Prior Art]** Good rareness and each manufacture manufacturer are developing development competition of a portable telephone with the lightweight[ small and ]-ized smaller thing by which the latest portable telephone goes into a pocket. On the other hand, the needs which perform e-mail and perusal of a website using a portable telephone are increasing, and popularity has gathered for the portable telephone which has a bigger display. Drawing 6 is a perspective view which the conventional portable telephone shows. The body section from which 1 constitutes the case of a portable telephone in drawing, the display as a display on which 2 has been arranged in the front face of the body section 1, The loudspeaker section which 3 is prepared in the upper part of the display 2 of the front face of the body section 1, and outputs a message partner's voice, The control unit which 6 is prepared [ control unit ] in the lower part of the display 2 of the front face of the body section 1, and performs actuation of the microphone section 7 mentioned later and the loudspeaker section 3, and 7 are the microphone sections which are prepared in the upper part of the display 2 of the front face of the body section 1, and input a user's voice.

**[0002]**

**[Problem(s) to be Solved by the Invention]** In order to fulfill two needs which conflict [ which it was called the miniaturization of the body of a portable telephone, and enlargement of a display ], each manufacture manufacturer devised making a loudspeaker small etc., and has secured the tooth space which arranges a display. Consequently, problems, like the sound from a loudspeaker stops being able to be audible easily had arisen. Moreover, since the microphone section 7 was installed in the front face of the same body section 1 as a display, when talking over the telephone, the display touched the front face of a user's face and there was a problem of the dirt of a face adhering to a display and becoming dirty. Especially when wearing makeup like a woman, makeup adhered to the display, and dirt was still more remarkable.

**[0003]** This invention solves such a problem, and even if it miniaturizes a body, it aims at offering the portable telephone which can arrange a big display. Moreover, a display does not contact a face at the time of use, but it aims at a display providing dirt with a pile portable telephone.

**[0004]**

**[Means for Solving the Problem]** The portable telephone concerning this invention is equipped with the body section, the display arranged in the front face of the body section, the microphone section which inputs a user's voice, the loudspeaker section which outputs a message partner's voice, and the control unit which performs actuation of the microphone section and the loudspeaker section, and the loudspeaker section and a display are arranged in the field where the body sections differ mutually.

**[0005]** Moreover, the portable telephone concerning this invention is equipped with the body section, the display arranged in the front face of the body section, the microphone section which inputs a user's voice, the loudspeaker section which outputs a message partner's voice, and the control unit which

performs actuation of the microphone section and the loudspeaker section, and the loudspeaker section is arranged on the up side face of the body section.

[0006] Moreover, the display by which the portable telephone concerning this invention has been arranged in the front face of the body section and the body section, The microphone section which inputs a user's voice, and the loudspeaker section which outputs a message partner's voice, It has the control unit which performs actuation of the microphone section and the loudspeaker section, and the arm section developed in the direction which is fixed by the flank lower limit of the body section and is isolated from the side face of the body section, and the microphone section is arranged at the tip of the arm section.

[0007] Moreover, the loudspeaker section is arranged on the up side face of the body section.

[0008] It is arranged on the side face of the body section, and has the fingerprint read station which reads a user's fingerprint, and the fingerprint read by the fingerprint read station is attested, and only when a user is a just possessor, actuation of a control unit is confirmed.

[0009]

[Embodiment of the Invention] Gestalt 1. drawing 1 of operation is the perspective view showing the gestalt of operation of a portable telephone, and is drawing showing the condition of having closed the arm section. Drawing 2 is the perspective view showing the gestalt of operation of a portable telephone, and is drawing showing the condition of having extended the arm section. The body section from which 1 constitutes the case of a portable telephone in each drawing, the display as a display on which 2 has been arranged in the front face of the body section 1, The loudspeaker section which 3 is projected and installed in the up side face of the body section 1, and outputs a message partner's voice, The arm section developed in the direction which 4 is fixed by the hinge region 5 of the flank lower limit of the body section 1, sets a revolving shaft as a hinge region 5, and is isolated from the side face of the body section 1, The control unit which 5 is prepared in a hinge region, and 6 is prepared [ control unit ] in the lower part of the display 2 of the front face of the body section 1, and performs actuation of the microphone section 7 mentioned later and the loudspeaker section 3, and 7 are the microphone sections which are installed in the body section [ of the arm section ] 1, and tip side on the field which counters, and input a user's voice.

[0010] Next, actuation is explained. First, it changes into the condition of having closed the arm section 4 as usually shown in drawing 1 . That is, while standing by, in order to talk over the telephone, when inputting a phase hand's telephone number, it is a time of operating it by the control unit 3 etc. Subsequently, when talking over the telephone to the actual conditions when telephoning the time of having got the telephone call from the partner, and a partner, a user develops the arm section 4 in the direction which sets a revolving shaft as a hinge region 5, and isolates it from the side face of the body section 1. Subsequently, a user inserts the loudspeaker section 3 in a lug, and talks a message over the telephone. Subsequently, when a message is completed, a user removes the loudspeaker section 3 from a lug, and folds up the arm section 4.

[0011] In addition, the height from body section 1 side face of the loudspeaker section 3 is almost equal to the thickness of the arm section 4, or it is desirable that it is less than [ it ]. It is because the loudspeaker section 3 does not protrude rather than the arm section 4 where the arm section 4 is closed, and it does not become obstructive in the case of a cellular phone.

[0012] In addition, a right lateral is sufficient although the loudspeaker section 3 and the arm section 4 are formed in the left lateral of the body section 1 with the gestalt of this operation.

[0013] Thus, since the microphone section 7 was formed in the arm section 4 which formed the loudspeaker section 3 in the side face of the body section 1 of a portable telephone, and was further prepared in the side face of the body section 1 of a portable telephone, it is not necessary to install the loudspeaker section 3 and the microphone section 7 in the front face of the body section 1 of a portable telephone, the installation field of a display 2 can be secured widely, and the display 2 of a big screen can be installed more. Moreover, since the loudspeaker section 3 was formed in the side face of the body section 1 of a portable telephone, in order to secure the tooth space of a display 2, the difficulty of being audible of the sound from the loudspeaker section 3 by making the loudspeaker section 3 small can be

prevented.

[0014] Moreover, since the loudspeaker section 3 was projected and installed from the up side face of the body section 1, while being able to insert the loudspeaker section into a user's lug and becoming easy to be audible [ with the time of a message ], the sound leakage by the exterior can be prevented.

[0015] Moreover, since the loudspeaker section 3 is arranged on the side face of the body section 1 and the display has been arranged in the front face of the body section 1, in case a portable telephone is used, a display 2 can prevent dirt according [ a display 2 ] to the dirt of a face, or makeup in contact with a front face to a user's face.

[0016] In the gestalt of gestalt 2. book implementation of operation, the part which attached the same sign as the gestalt 1 of operation shows the same or a considerable part. Drawing 3 is the perspective view showing the gestalt 2 of operation of the portable telephone of this invention. In drawing, 3a is the loudspeaker section which is installed in the up side face of the body section 1, and outputs a message partner's voice.

[0017] In addition, since loudspeaker section 3a projects, and is not prepared about actuation of the gestalt of this operation and it is the same as that of the gestalt 1 of operation except not inserting in a user's lug, explanation is omitted.

[0018] Thus, since the microphone section 7 was formed in the arm section 4 which formed the loudspeaker section 3 in the side face of the body section 1 of a portable telephone, and was further prepared in the side face of the body section 1 of a portable telephone, it is not necessary to install the loudspeaker section 3 and the microphone section 7 in the front face of the body section 1 of a portable telephone, the installation field of a display 2 can be secured widely, and the display 2 of a big screen can be installed more. Moreover, since the loudspeaker section 3 was formed without projecting on the side face of the body section 1 of a portable telephone, components reduction and cost reduction can be planned. Moreover, since it is not necessary to insert the loudspeaker section 3 in a lug in case it talks over the telephone, troublesomeness is cancelable.

[0019] In the gestalt of gestalt 3. book implementation of operation, the part which attached the same sign as the gestalt 2 of operation shows the same or a considerable part. Drawing 4 is the perspective view showing the gestalt 2 of operation of the portable telephone of this invention. In drawing, 7a is the loudspeaker section which is installed in the lower side face of the body section 1, and outputs a message partner's voice.

[0020] In addition, since it does not have the arm section 4 and is the same as that of the gestalt 2 of operation about actuation of the gestalt of this operation except not developing the arm section 4 in the direction isolated from the side face of the body section 1, explanation is omitted.

[0021] Thus, while being able to simplify structure and being able to do an assembly easily since the loudspeaker section 3 and the microphone section 7 were formed in the side face of the body section 1 of a portable telephone, and it does not have the arm section 4 further in addition to the effectiveness of the gestalt 2 of operation, it is effective in the ability to aim at reduction in components mark or cost. Moreover, since it does not have the arm section 4, a body can be made small.

[0022] In the gestalt of gestalt 4. book implementation of operation, the part which attached the same sign as the gestalt 1 of operation shows the same or a considerable part. Drawing 5 is the perspective view showing the gestalt 3 of operation of the portable telephone of this invention. In drawing, 8 is a fingerprint read station of the side face of the body section which is mostly arranged in the center section and reads a user's fingerprint. In addition, when the arm section 4 of the portable telephone shown in drawing 5 is changed into the condition of having closed as shown in drawing 1, the arm section 4 covers the fingerprint read station 8, and achieves the duty of covering.

[0023] Next, although actuation is explained, since it is the same as that of the gestalt 1 of operation except when actually talking over the telephone, only the actuation when actually talking over the telephone is explained. When talking over the telephone to the actual conditions when telephoning the time of having got the telephone call from the partner, and a partner, a user develops and uses the arm section 4 in the direction which sets a revolving shaft as a hinge region 5, and isolates it from the side face of the body section 1, but in that case, a user has the body section 1 so that the fingerprint read

station 8 may be contacted in a finger. Subsequently, it compares with the fingerprint beforehand remembered to be the fingerprint read by the fingerprint read station 8 inside the body section 1. Subsequently, when the fingerprint beforehand remembered to be the read fingerprint as a result of the comparison is in agreement, a current user judges that he is a just possessor, and confirms actuation of a control unit 6. Since the rest should just talk over the telephone like the gestalt 1 of operation, explanation is omitted.

[0024] Thus, since it attests with the fingerprint which read a user's fingerprint and was beforehand memorized by the fingerprint read station 8, unjust use can be prevented.

[0025] Moreover, since the fingerprint read station 8 is covered by the arm section 4, another way does not need to receive covering of the sake at the time of un-using [ of the fingerprint read station 8 ] it, either, and components reduction can be aimed at.

[0026]

[Effect of the Invention] The display by which the portable telephone concerning this invention has been arranged in the front face of the body section and the body section, It has the microphone section which inputs a user's voice, the loudspeaker section which outputs a message partner's voice, and the control unit which performs actuation of the microphone section and the loudspeaker section. The loudspeaker section and a display Since it is arranged in the field where the body sections differ mutually, even if it miniaturizes a body, it is effective in the ability to arrange a big display.

[0027] Moreover, the display by which the portable telephone concerning this invention has been arranged in the front face of the body section and the body section, It has the microphone section which inputs a user's voice, the loudspeaker section which outputs a message partner's voice, and the control unit which performs actuation of the microphone section and the loudspeaker section. The loudspeaker section Since it is arranged on the up side face of the body section, even if it miniaturizes a body, it is effective in the ability to arrange a big display.

[0028] Moreover, the display by which the portable telephone concerning this invention has been arranged in the front face of the body section and the body section, The microphone section which inputs a user's voice, and the loudspeaker section which outputs a message partner's voice, It has the control unit which performs actuation of the microphone section and the loudspeaker section, and the arm section developed in the direction which is fixed by the flank lower limit of the body section and is isolated from the side face of the body section. The microphone section Since it is arranged at the tip of the arm section, even if it miniaturizes a body, it is effective in the ability to arrange a big display.

[0029] Moreover, since it is arranged on the up side face of the body section, even if the loudspeaker section miniaturizes a body, it is effective in the ability to arrange a big display.

[0030] Since it is arranged on the side face of the body section, it has the fingerprint read station which reads a user's fingerprint, and the fingerprint read by the fingerprint read station is attested, and actuation of a control unit is confirmed only when a user is a just possessor, it is effective in the ability to prevent unjust use.

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**TECHNICAL FIELD**

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[Field of the Invention] It is related with the portable telephone suitable for a miniaturization.

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PRIOR ART

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[Description of the Prior Art] Good rareness and each manufacture manufacturer are developing development competition of a portable telephone with the lightweight[ small and ]-ized smaller thing by which the latest portable telephone goes into a pocket. On the other hand, the needs which perform e-mail and perusal of a website using a portable telephone are increasing, and popularity has gathered for the portable telephone which has a bigger display. Drawing 6 is a perspective view which the conventional portable telephone shows. The body section from which 1 constitutes the case of a portable telephone in drawing, the display as a display on which 2 has been arranged in the front face of the body section 1, The loudspeaker section which 3 is prepared in the upper part of the display 2 of the front face of the body section 1, and outputs a message partner's voice, The control unit which 6 is prepared. [ control unit ] in the lower part of the display 2 of the front face of the body section 1, and performs actuation of the microphone section 7 mentioned later and the loudspeaker section 3, and 7 are the microphone sections which are prepared in the upper part of the display 2 of the front face of the body section 1, and input a user's voice.  
[0002]

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**EFFECT OF THE INVENTION**

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[Effect of the Invention] The display by which the portable telephone concerning this invention has been arranged in the front face of the body section and the body section, It has the microphone section which inputs a user's voice, the loudspeaker section which outputs a message partner's voice, and the control unit which performs actuation of the microphone section and the loudspeaker section. The loudspeaker section and a display Since it is arranged in the field where the body sections differ mutually, even if it miniaturizes a body, it is effective in the ability to arrange a big display.

[0027] Moreover, the display by which the portable telephone concerning this invention has been arranged in the front face of the body section and the body section, It has the microphone section which inputs a user's voice, the loudspeaker section which outputs a message partner's voice, and the control unit which performs actuation of the microphone section and the loudspeaker section. The loudspeaker section Since it is arranged on the up side face of the body section, even if it miniaturizes a body, it is effective in the ability to arrange a big display.

[0028] Moreover, the display by which the portable telephone concerning this invention has been arranged in the front face of the body section and the body section, The microphone section which inputs a user's voice, and the loudspeaker section which outputs a message partner's voice, It has the control unit which performs actuation of the microphone section and the loudspeaker section, and the arm section developed in the direction which is fixed by the flank lower limit of the body section and is isolated from the side face of the body section. The microphone section Since it is arranged at the tip of the arm section, even if it miniaturizes a body, it is effective in the ability to arrange a big display.

[0029] Moreover, since it is arranged on the up side face of the body section, even if the loudspeaker section miniaturizes a body, it is effective in the ability to arrange a big display.

[0030] Since it is arranged on the side face of the body section, it has the fingerprint read station which reads a user's fingerprint, and the fingerprint read by the fingerprint read station is attested, and actuation of a control unit is confirmed only when a user is a just possessor, it is effective in the ability to prevent unjust use.

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**TECHNICAL PROBLEM**

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[Problem(s) to be Solved by the Invention] In order to fulfill two needs which conflict [ which it was called the miniaturization of the body of a portable telephone, and enlargement of a display ], each manufacture manufacturer devised making a loudspeaker small etc., and has secured the tooth space which arranges a display. Consequently, problems, like the sound from a loudspeaker stops being able to be audible easily had arisen. Moreover, since the microphone section 7 was installed in the front face of the same body section 1 as a display, when talking over the telephone, the display touched the front face of a user's face and there was a problem of the dirt of a face adhering to a display and becoming dirty. Especially when wearing makeup like a woman, makeup adhered to the display, and dirt was still more remarkable.

[0003] This invention solves such a problem, and even if it miniaturizes a body, it aims at offering the portable telephone which can arrange a big display. Moreover, a display does not contact a face at the time of use, but it aims at a display providing dirt with a pile portable telephone.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the perspective view showing the gestalt 1 of operation of the portable telephone of this invention, and is drawing showing the condition of having closed the arm section.

[Drawing 2] It is the perspective view showing the gestalt 1 of operation of the portable telephone of this invention, and is drawing showing the condition of having extended the arm section.

[Drawing 3] It is the perspective view showing the gestalt 2 of operation of the portable telephone of this invention.

[Drawing 4] It is the perspective view showing the gestalt 3 of operation of the portable telephone of this invention.

[Drawing 5] It is the perspective view showing the gestalt 4 of operation of the portable telephone of this invention.

[Drawing 6] The perspective view showing the conventional portable telephone.

[Description of Notations]

1 The body section, 2 3 Display, 3a The loudspeaker section, 4 The arm section, 5 A hinge region, 6 7 Control unit, 7a The microphone section, 8 Fingerprint read station.

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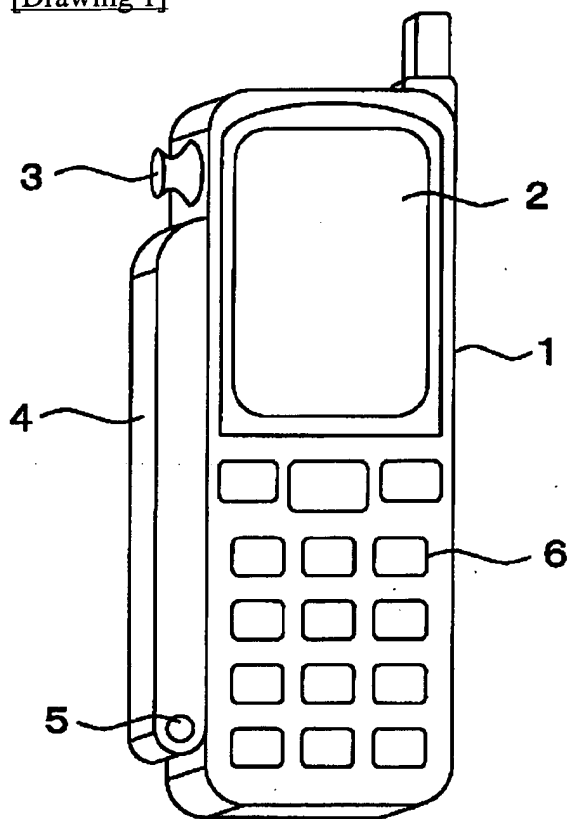
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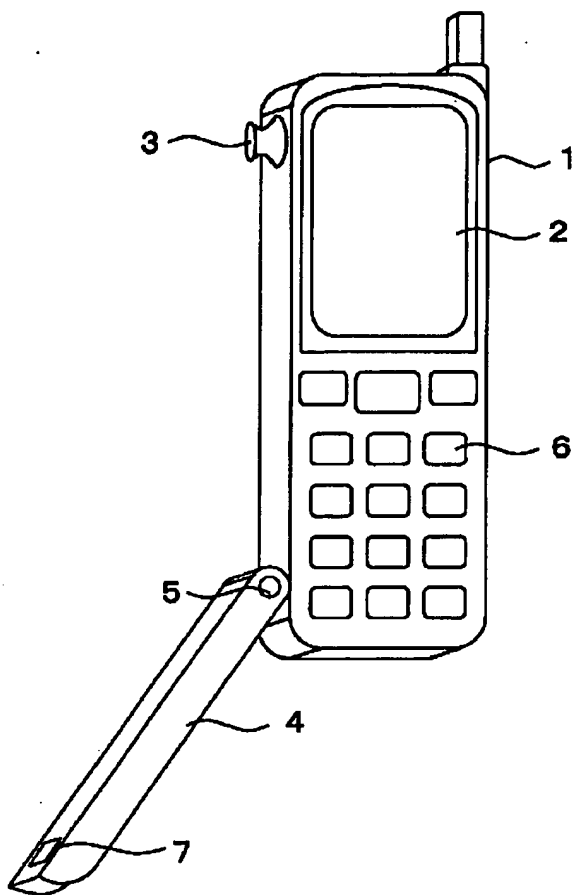
DRAWINGS

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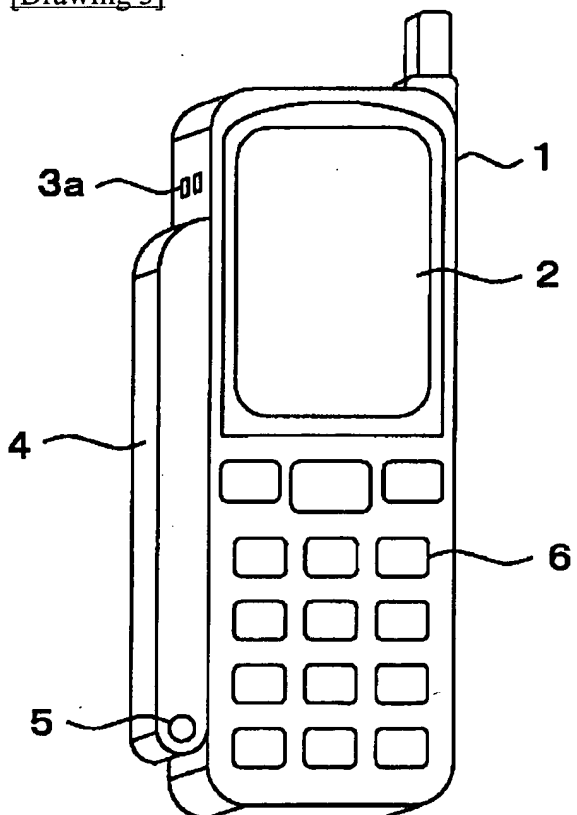
[Drawing 1]



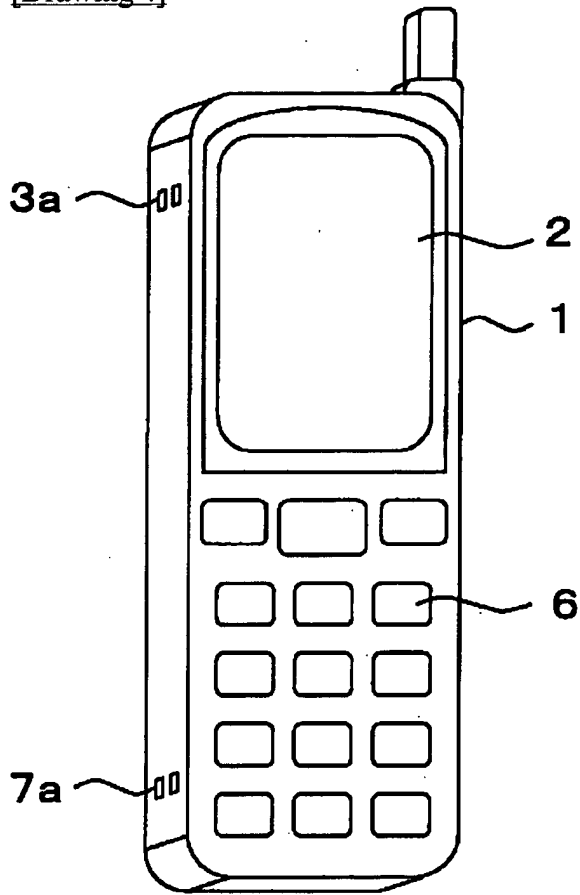
[Drawing 2]



[Drawing 3]

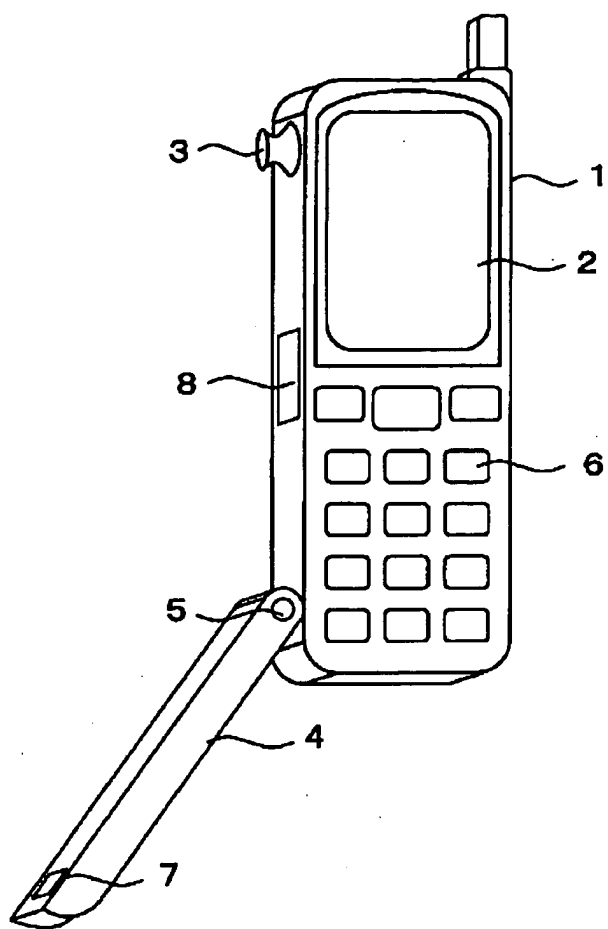


[Drawing 4]



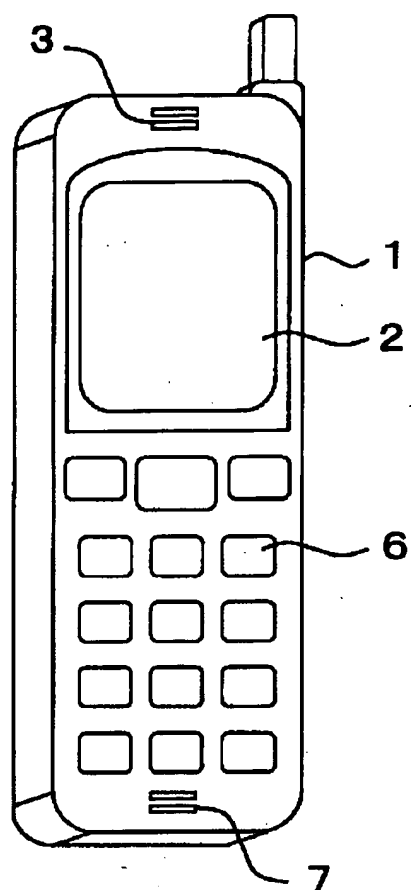
3a: loud speaker  
7a: microphone

[Drawing 5]



[Drawing 6]





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